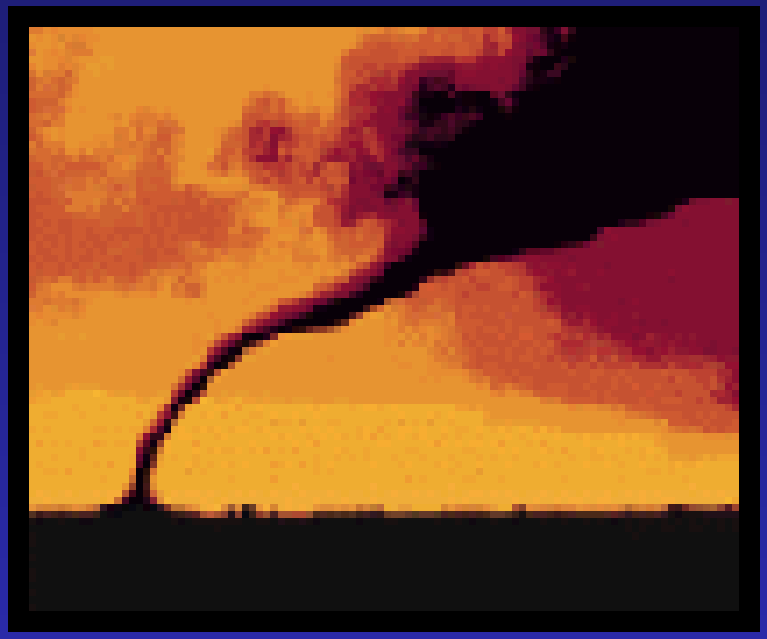
Tornado Quiz



Tornado Safety Information
USAFACFS Installation/Branch Safety Office

QUESTION # 1

at is the largest number of tornadoes to occur in the U.S. in a single 24 h od ?

ANSWER

om April 3rd, 1974 to April 4th, 1974, a total of 148 tornadoes struck the ited States. This event is known as the "Super Outbreak" Although no tbreaks since have equaled this number, the U.S. has suffered some othe ge 24 hour outbreaks, including an 84 tornado outbreak in 1998 and a 1 rnado outbreak in 1999.) An outbreak usually consists of six or more rnadoes from the same storm system.

hong the 148 tornadoes of the "Super Outbreak", the most devastating curred in Xenia, OH where a tornado with a path 32 miles long and up to 0 yards wide killed 36 people and injured over 1,150.

QUESTION # 2

What was the highest wind speed ever measured in a tornado ?

ANSWER

May 3rd, 1999 a violent tornado struck Oklahoma City, OK and rrounding cities causing 35 deaths, 748 injuries and $ 1.485 billion in mage (making it the single most expensive tornado in history.)

is extreme tornado was also monitored for a part of its life by a mobile ppler radar (a.k.a Doppler on Wheels or DOW) The results of the data m the DOW stood previous estimates of possible wind speed on their rs. At one point in the tornado's life, the DOW recorded a wind speed 318 miles per hour (well above ground level.) This speed is the highest er recorded (and once thought to be the highest attainable.) Near grou el, winds have been measured at up to 232 mph.

QUESTION # 3

What region of the country has the highest number of tornado deaths

ANSWER

**hough the highest number of tornadoes occur in the south / central regi
U.S., the highest death rate occurs in the Midwest, with Indiana, Ohio,
chigan, Illinois and Kentucky all in the top ten for deaths per 10,000 sq.
io ranks fifth.)**

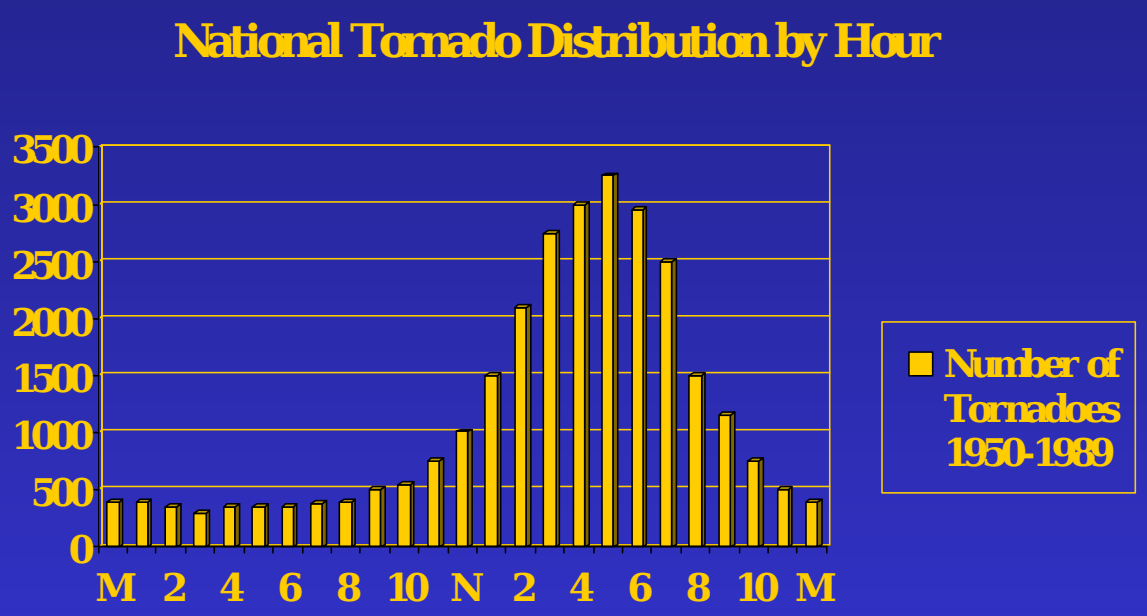
**o ranks 13th in the number of killer tornadoes and 21st in the total numb
ornadoes. This should be a clue that even though tornadoes aren't as
quent here, the ones we do get tend to be violent. (Ohio ranks fourth in
nation for killer tornadoes as a percentage of all tornadoes.)**

QUESTION # 4

What is the peak hour of the day for tornado formation ?

ANSWER

ost tornadoes occur between the hours of 3 p.m. and 9 p.m., with most o ose occurring around 5 p.m.

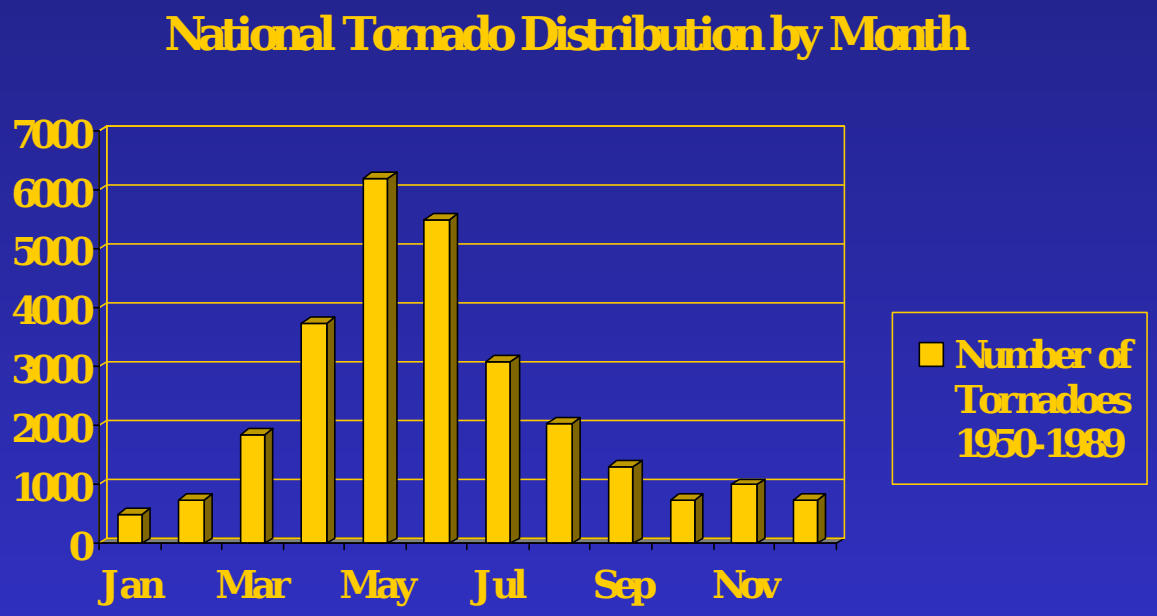


QUESTION # 5

What is the peak month for tornado formation ?

ANSWER

ationwide, May is the peak month. In Ohio, June is the peak month.

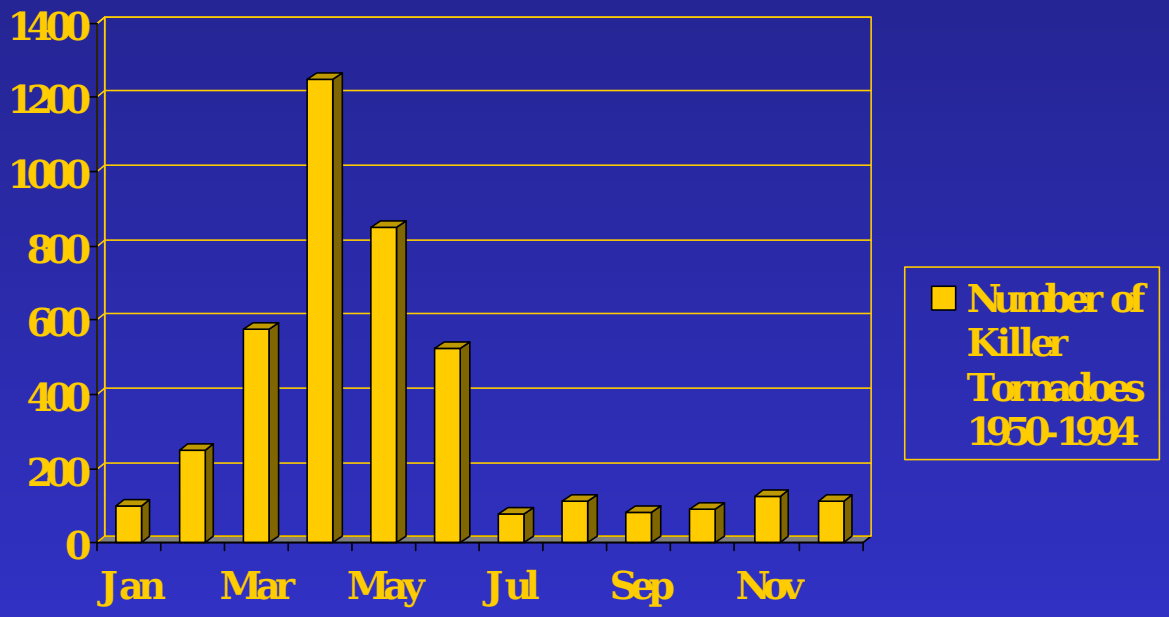


QUESTION # 6

What is the peak month for tornado deaths ?

ANSWER

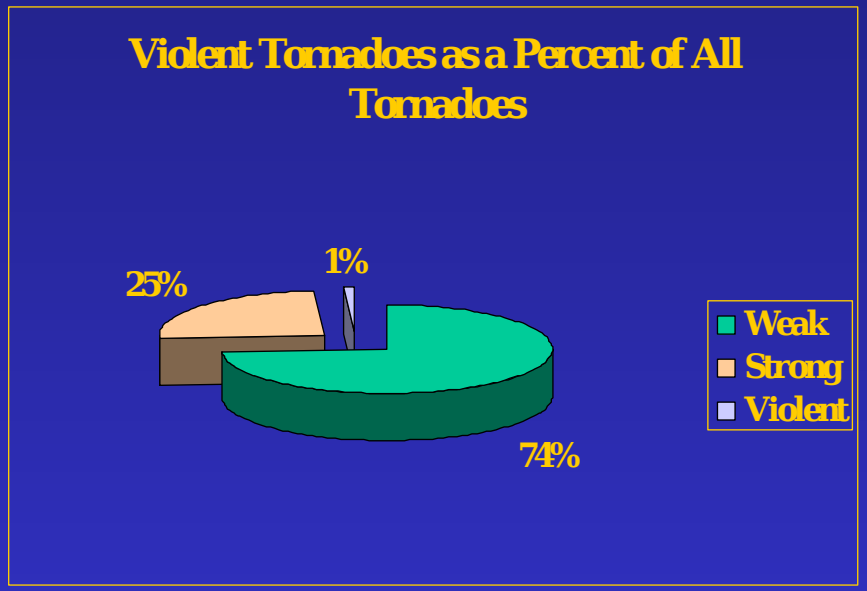
tionwide, April is the peak month, with most deaths occurring in the two eks immediately following the time change. (More tornadoes occur when ople are sleeping, and people are less reactive to severe weather until late the season.)

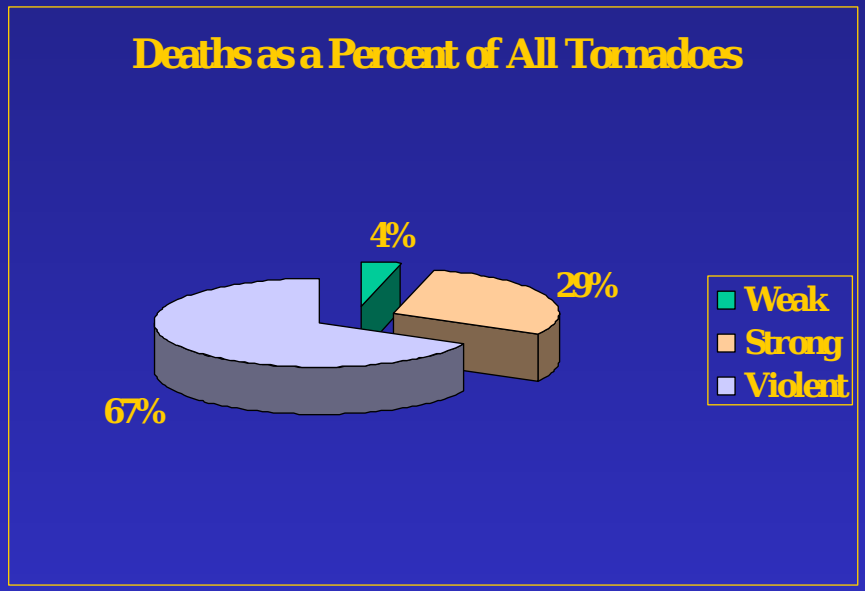


QUESTION # 7

Of all tornadoes, what percentage are classified as violent tornadoes ?
Violent tornadoes account for what percentage of deaths ?

ANSWER





QUESTION # 8

What is the difference between a tornado watch, and a tornado warning

ANSWER

O WATCH:

itions are favorable for the formation of tornadoes in, and close to,
h area. Persons in the watch area should be on the lookout for threaten
and monitor media (radio & TV) for later statements and warnings.

O WARNING:

nado has been sighted by local spotters or local officials. (or)
ler radar indicates strong, concentrated rotation within a thunderstorm

ons in the warning area should seek shelter immediately.

e nationwide average warning time is 16 minutes. (However, the popula
Texas had 36 minutes of warning when a tornado struck in 1997. That
hat sometimes there is no warning.)

QUESTION # 9

True or False ? Tornadoes can strike major cities !

ANSWER

**! A common misconception is that cities emit enough heat to dissipate
does, or that tall buildings interfere with a tornado's winds. Major citie
ave been struck recently, include: Fort Worth, TX, Oklahoma City, OK,
i, FL, Nashville, TN and Salt Lake City, UT. Historically, Dallas, TX,
go, IL, Los Angeles, CA and St. Louis, MO have also all been hit.**

**r cities are extremely small targets surrounded by vast expanses of land
er cities. The chance of any one tornado striking a major metropolitan
atively small, and as such, many fewer tornadoes in major cities are reco**

QUESTION # 10

True or False ? Mobile home parks are tornado magnets !

ANSWER

**! This is another common misconception. In the central plains, where
oes occur, trailer parks are numerous and tend to be located near a sma
m size town for convenience. When tornadoes hit trailer parks the deva
ost always complete due to the relatively poor construction of mobile ho
s. In addition, warning systems are usually not in convenient proximity
ocations, and deaths and injuries are common. The resulting media cov
these mobile home and trailer parks seem like tornado magnets.**

**nt engineering study, suggests that winds as low as 60 miles per hour ar
e of demolishing a mobile home. Residents of mobile homes and trailer
seek shelter elsewhere if threatening weather occurs.**

QUESTION # 10

e or False ? The F-Scale of Tornado Intensity is named after the scientist culated the explosive power of the atomic bomb dropped on Hiroshima !

ANSWER

! Among Dr. Tetsuya Fujita's many accomplishments was his in depth st t effects in Hiroshima and Nagasaki. His studies, combined with struct ering experiments allowed him to determine the explosive power of the tomic bomb.

sor Ted Fujita, as he was known in the states, was also able to determine timate wind speeds required to produce varying amounts of damage to ngs and other structures. The result of this study was the development with which to classify tornadoes based on wind speed. This scale is kn "F-Scale" or "Fujita Scale"

ita was also able to identify the presence of multiple vortices in tornado ng damage patterns left in the ground.

THE FUJITA SCALE OF TORNADO INTENSITY

F-Scale Rating	Description	Wind Speed (mph)	Damage
F-0	Gale Tornado	40-72	Some damage to chimneys. Breaks tree branches. Pushes over shallow-rooted trees. Damages sign boards.
F-1	Moderate Tornado	73-112	The lower limit is hurricane wind speed. Peels surfaces off roofs. Mobile homes pushed off foundations or overturned. Moving autos pushed off roads. Garages destroyed.
F-2	Significant Tornado	113-157	Considerable damage. Roofs torn off frame houses. Mobile homes demolished. Boxcars pushed over. Large trees snapped or uprooted. Light object missiles generated.
F-3	Severe Tornado	158-206	Roof & walls torn off well constructed homes. Trains overturned. Most trees in forest uprooted.
F-4	Devastating Tornado	207-260	Well constructed houses leveled. Structures with weak foundations swept away. Cars thrown. Large object missiles generated.
F-5	Incredible Tornado	261-318	Strong frame houses carried considerable distances. Automobile-sized missiles generated. Trees debarked. Asphalt pavement removed from roads. Steel reinforced structures badly damaged.

Note: the Oklahoma City tornado of 1999 had winds at the top limit of the F-5 scal

Note: The heaviest object ever thrown by a tornado was a 30,000 pound railroad c

QUESTION # 11

**e or False ? The safest place to seek shelter is the southwest corner of yo
ement, or the side of the basement facing the approaching tornado.**

ANSWER

**! Although the original intent was good, this misconception stems from
nation provided to a large number of people. The original idea was that
loes (which frequently approach from the southwest) would blow debris
rner opposite the direction from which they approached. The problem i
lic winds are not all parallel to the direction in which the tornado travel
on, houses often collapse before the highest winds reach them.**

**fest place to seek shelter from a tornado is on the lowest level of a build
under a central stairwell. Place as many walls, in all directions, between
e tornado, and get under a heavy frame object (such as a table or
ench.) Covering yourself with a mattress or other object will also help
t you from debris. Bathrooms may offer extra protection due to the am
g required to support the plumbing. Seeking shelter in the bathtub, wi
ss over you, provides some protection on all sides, as well as a tether to
ation.**

QUESTION # 12

**e or False ? If you are outside when a tornado strikes, seek shelter unde
ghway overpass !**

ANSWER

**! This has become a popular misconception, mainly due to a news vide
n Oklahoma tornado, where the news crew takes shelter under an overp
rvives. First and foremost, never run from a tornado, unless you have
ntial warning, or it is obvious that the tornado is moving to your right, o
Many people have died in car accidents trying to flee tornadoes. Secondl
s evidence that being under a bridge overpass can increase the danger t
form of higher winds and greater debris, in addition to the traffic jam cr
ple seeking shelter. See the National Weather Service report regarding
ss deaths (this can be found at the National Weather Service website at
www.srh.noaa.gov/oun/papers/overpass.html .)**

**ide, when a tornado approaches, seek shelter in a building if one is avai
seek shelter in a ditch. Tornadic winds decrease very close to the groun
few feet.) The lower you can get, the better off you are. If you are in a
on the car.**

QUESTION # 13

ue or False ? If a tornado approaches, open your windows to prevent you
use from exploding due to the pressure drop.

ANSWER

! Again, this was a widely accepted piece of information when it was fi
ated. Primarily, this evolved from the idea that a tornado created close t
acuum, and your house would explode if the pressure wasn't equalized
ity, even in F-5 tornadoes, the pressure drops about 10%, which your ho
nt through normal openings (not including the ones created by the torn
three to four seconds.

g time opening the windows is dangerous, and pointless since the wind
ntly the first items to break in a house. In addition to the debris swirlin
o, the windows have to withstand wind pressure of up to 320 pounds pe
foot (which is like setting a car on a window.) In addition, as the winds
open window, this exposes the load bearing walls in your house to addi
as well as creating an effect similar to blowing up a balloon. This caus
to, guess what ? Explode !

QUESTION # 14 - FINAL JEOPARDY

What is the number one weather related killer ?

ANSWER

QUESTION !!!

**Flooding, not tornadoes, is the number one killer ! Flash floods kill mor
per year than lightning, tornadoes and exposure (hypothermia and hea
es) combined ! Don't become a casualty. Don't drive through low lying
l areas, and remember the water might be deeper than it looks. If you l
rea prone to flooding, plan your escape route before the flood, and get o
the flood.**

**nding on the volume, water as little as three feet deep can pick up your c
it downstream !)**

ANY QUESTIONS